

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر ابريل



1 (A) Correct the underlined words :

- The energy that is produced by wind turbines is called hydroelectric energy. (.....)
- Wind turbines produce more electricity when the wind blows with more potential energy. (.....)
- Greenhouses convert radiant energy coming from the Sun into light energy that is used to plant crops which grow in warm climates. (.....)

(B) Give a reason for the following :

Wind turbines are placed in windy places.

2 (A) Cross out the odd word :

- Water – Wind – Coal – Sun. (.....)
- Solar water heater – Hand mixer – Solar panel – Greenhouse. (.....)
- Gasoline – Coal – Natural gas – Wind. (.....)

(B) Compare between water turbines and solar panels in the table below :

Points of comparison	Water turbines	Solar panels
1. Source of energy that is used to operate it :		
2. The produced energy :	 energy.	 energy.

3 (A) Look at the figure, then put (✓) or (X) :

- Water in the area (A) can be used in rotating water turbines. ()
- Water in the area (A) has no kinetic energy. ()
- Water in the area (B) may evaporate in the presence of sunlight. ()
- When water in both areas (A) and (B) evaporates, it never returns back to the river. ()



(B) Mention the input and output energies in each of the following :

	Input energy	Output energy
a. Wind turbines :		
b. Greenhouse :		

SELF-ASSESSMENTS

on Concept (4.1)

Self-Assessment 13

On Lesson 1

1 (A) Correct the underlined words :

1. The deep valley that is carved by flowing water, is known as coastal rock. (.....)
2. Disappearance of a sandcastle in few minutes is an example of slow changes. (.....)
3. Canyons are formed due to fast changes. (.....)

(B) Cross out the odd word :

Formation of canyons – Formation of valleys – Disappearance of a sandcastle – Breaking down of coastal rocks. (.....)

2 (A) Put (✓) or (X) :

1. Both of sandcastles and canyons can be formed in few hours. ()
2. There are some similarities between sandcastles and coastal rocks. ()
3. Canyons have sloping at sides like that of coastal rocks. ()

(B) Give a reason for the following :

Sandcastle on a seashore may disappear in few minutes.

.....

3 Complete the following sentences using the words below :

(minutes – slow – years – fast)

1. Formation of coastal rocks and canyons takes many, so this is considered as changes.
2. Disappearance of sandcastle on a seashore takes few, so this is considered as changes.

Self-Assessment 14

till Lesson 2

1 (A) Correct the underlined words :

1. The movement of sediments from one place to another, is know as deposition. (.....)
2. Weather is the breaking down of rocks on Earth's surface into tiny pieces. (.....)
3. Plant leaves grow inside the cracks of rocks which become wider. (.....)

(B) What happens if ...?

Water in cracks of rocks freeze and melt several time.

.....

.....

2 (A) Put (✓) or (X) :

1. Water may cause mechanical and chemical weathering. ()
2. Chemical weathering could occur due to the acid that is produced from lichens or present in acid rains. ()
3. Limestone caves are formed due to friction between sand and rocks. ()

(B) Give a reason for the following :

Plant roots play an important role in mechanical weathering.

.....

.....

3 Classify the following examples in the table below :

1. Rusting of an iron statue.
2. Formation of limestone cave.
3. Break down of rocks by plant roots.
4. Break down of a rock statue by wind.
5. Break down of rocks by acid rain.
6. Dissolving minerals of rocks by acids of lichens.

Mechanical weathering	Chemical weathering
.....	
.....	
.....	
.....	
.....	
.....	

Self-Assessment 15 till Lesson 3

1 (A) Put (✓) or (x) :

- Crushing a piece of biscuit by hands can represent a type of chemical weathering. ()
- The shape and structure of an iron statue are changed due to rusting process. ()
- Limestone caves formed within few hours. ()

(B) Give a reason for the following :

Dissolving biscuits in water containing antacid considered as a chemical weathering.

.....

2 (A) Complete the following sentences using the words below :

(water – chemical – weathering – mechanical)

- The weathering makes greater changes than weathering.
- Chemical and mechanical weathering can be caused by
- If the color of a statue changes and it is broken into small pieces, this means both types of process are happened to it.

(B) What happens if ...?

A piece of cookies is placed in a cup of water containing antacid.

.....

3 Classify the following factors that causing weathering in the table below :

- | | | |
|-----------------|-----------------|----------------|
| 1. Wind. | 2. Water. | 3. Acids. |
| 4. Temperature. | 5. Plant roots. | 6. Oxygen gas. |

Factors cause mechanical weathering	Factors cause chemical weathering
.....	
.....	
.....	
.....	
.....	

Self-Assessment 16 till Lesson 4

1 (A) Correct the underlined words :

1. Weathering process followed by deposition process in reshaping Earth's surface. (.....)
2. Sand grains can be carried for a short distance by strong wind. (.....)
3. When sediments are deposited at the end of a river, a sand dune is formed. (.....)

(B) Cross out the odd word :

Limestone caves – Red rusts in iron rocks – Freezing of water inside rock cracks – Breaking down of rocks by the effect of acid rains. (.....)

2 (A) Put (✓) or (X) :

1. You can see the reshaping of Earth's surface during its occurrence. ()
2. If there is no erosion process, there is no deposition process in another place. ()
3. Delta may be formed by the effect of weathering process only. ()

(B) What happens if ...?

The gravity acts on broken weathered rocks at the top of a mountain.

.....

3 Study the following two figures of sand grains, then put (✓) or (X) below :



Figure (1)



Figure (2)

1. The action of water erosion appears in figure (1). ()
2. Gentle wind causes the deposition of sand grains in figure (1). ()
3. Both figures (1) and (2) show sand dunes that are formed as a result of wind erosion and deposition. ()

Self-Assessment 17 : till Lesson 5

1 (A) Correct the underlined words :

1. Hills of sand which are found in deserts and seashores are known as canyons. (.....)
2. Erosion process means that wind or water break down rocks. (.....)
3. Erosion process is usually followed by weathering process. (.....)

(B) Give a reason for the following :

If there is no erosion process there is no deposition process in another place.

.....

2 (A) Put (✓) or (X) :

1. After deposition of eroded materials it may wear down again by wind or water. ()
2. Erosion and deposition are two linked processes. ()
3. Both of small sand dunes and coastal rocks need few days to be formed. ()

(B) What happens if ...?

Weathering process doesn't occur.

.....

3 (A) Study the following two figures, then put (✓) or (X) below :



Figure (1)



Figure (2)

1. Figure (1) represents a triangle-shaped delta. ()
2. Figure (2) occurs due to the deposition of sediments and mud in a desert. ()
3. Water erosion plays an important role in formation of sand dunes that present in figure (2). ()

(B) Mention one difference between the following :

The formation of sand dunes and formation of delta.

.....

Model Exam on Concept (4.1)

Total mark

15

1 (A) Write the scientific term of each of the following :

(5 marks)

1. It is the process in which the weathered sediments are moved to another place by the effect of wind, water or gravity. (.....)
2. It is a type of caves that is formed when dissolved minerals of rocks combine again in new shapes. (.....)
3. Process in which the moving sediments are dropped in a new place. (.....)
4. A hill of sand created by the wind. (.....)

(B) What happens if ... ?

A red-colored rust is formed on some rocks.

.....
.....

2 (A) Choose the correct answer :

(5 marks)

1. As a result of breaking down of, sand is formed.
a. rubber b. plastic c. rocks d. glass
2. The breaking of rocks into smaller particles without changing their properties is called
a. mechanical weathering. b. chemical weathering.
c. deposition. d. erosion.
3. The deep narrow valley with slopes at its sides and often with water stream flowing through it is known as a
a. canyon. b. mountain. c. hill. d. river.
4. Lichens produce on rocks that dissolve minerals found in these rocks.
a. oxygen b. acids c. water d. rains

(B) Give a reason for the following :

Water play an important role in the formation of limestone caves.

.....
.....

3 (A) Complete the following sentences using the words below :*(5 marks)***(chemical – mechanical – wind – weathering)**

1. During process, rocks are broken down or wore away.
2. Formation of limestone caves is an example of weathering.
3. Air moving from an area to another and has a role in breaking down of rocks into smaller particles is known as
4. There are two types of weathering which are weathering and chemical weathering.

(B) Correct the underlined words :

1. The dropping of sediments in a new place, is known as weathering. (.....)
2. Small sand dunes are formed due to strong winds. (.....)

SELF-ASSESSMENTS

on Concept (4.2)

Self-Assessment 18 On Lesson 1

1 (A) Choose the correct answer :

1. has brown and black colors.
a. The Small Canyon b. Wadi Nakhr
c. The Colored Canyon d. Wadi Rum
2. are formed by the effect of water stream.
a. Mountains b. Dunes c. Hills d. Canyons
3. Small may be formed by the effect of flowing water over a flat land.
a. mountain b. dune c. canyon d. delta

(B) Give a reason for the following :

The sides of a canyon at the beginning of its formation are gently sloped.

.....

2 (A) Put (✓) or (X) :

1. The Colored Canyon in Sinai is formed due to erosion by water for a short period of time. ()
2. There are no trees or plants grow on the both sides of a canyon at the beginning of its formation. ()
3. The walls of canyons may be eroded by the effect of a river movement. ()

(B) What happens if ...?

More of rainwater is running through a small canyon again.

.....

3 Look at the following pictures, then complete the sentences below :



Picture (A)



Picture (B)

1. If a lot of rain falls on the landform in picture, its gently sloped sides will get deeper.
2. Water in picture can gather in one stream and form a river.

3. Landform in picture is considered as a small canyon at the beginning of its formation.

Self-Assessment 19 till Lesson 2

1 (A) Complete the following sentences using the words below :

(type – Sinai – V-shape)

1. Wadi Rum in Jordan has a
2. The Colored Canyon is found in
3. The shape of valley depends on the of rocks exist in the landscape.

(B) Give a reason for the following :

People must not build their houses very close to a river.

.....

2 (A) Put (✓) or (X) :

1. Big streams cause more erosion than small streams. ()
2. All canyons have the same shape. ()
3. Canyons differ in colors and texture of rocks. ()

(B) What happens if ...?

A water stream flows over a flat land for many days.

.....

.....

3 Choose from column (B) what suits it in column (A) :

(A) Processes	(B) Evidence
1. Weathering 2. Erosion 3. Deposition	a. formation of a patch of sand after heavy rain. b. formation of clouds in the sky. c. formation of small canyon where soil is washed away after heavy rain. d. formation of rounded and worn small rocks.

1.

2.

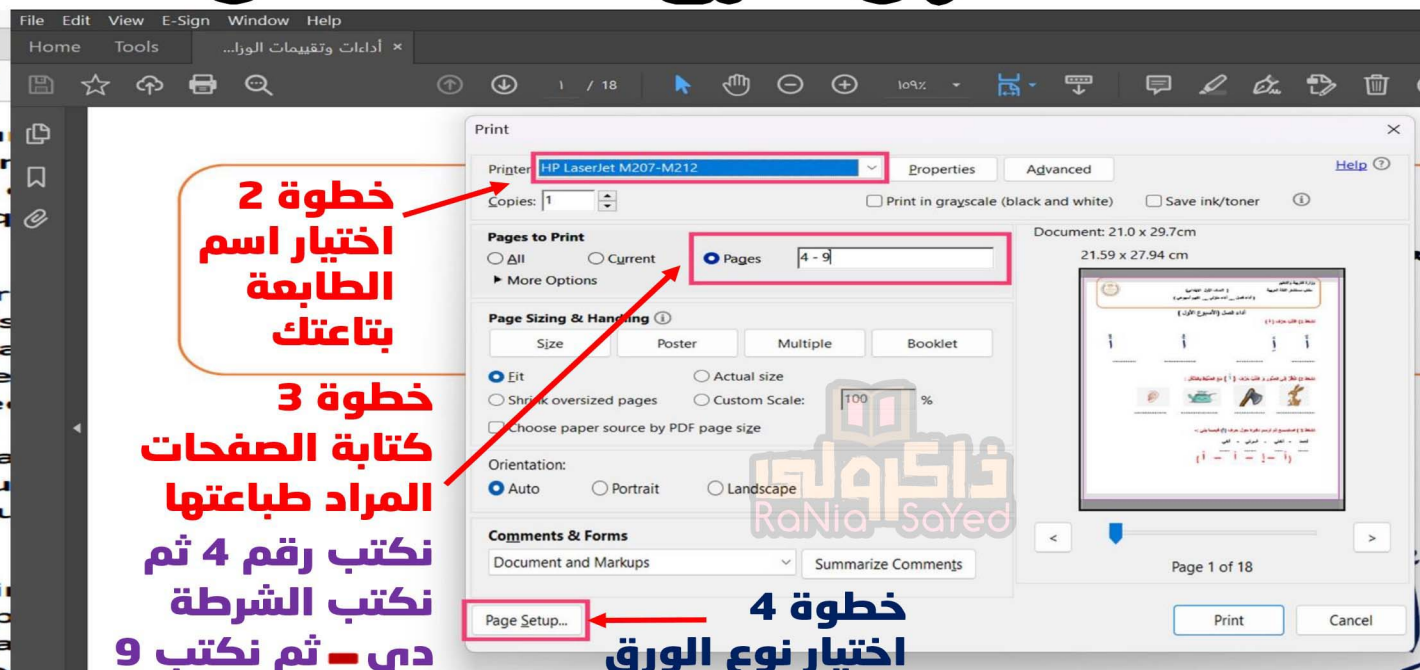
3.

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



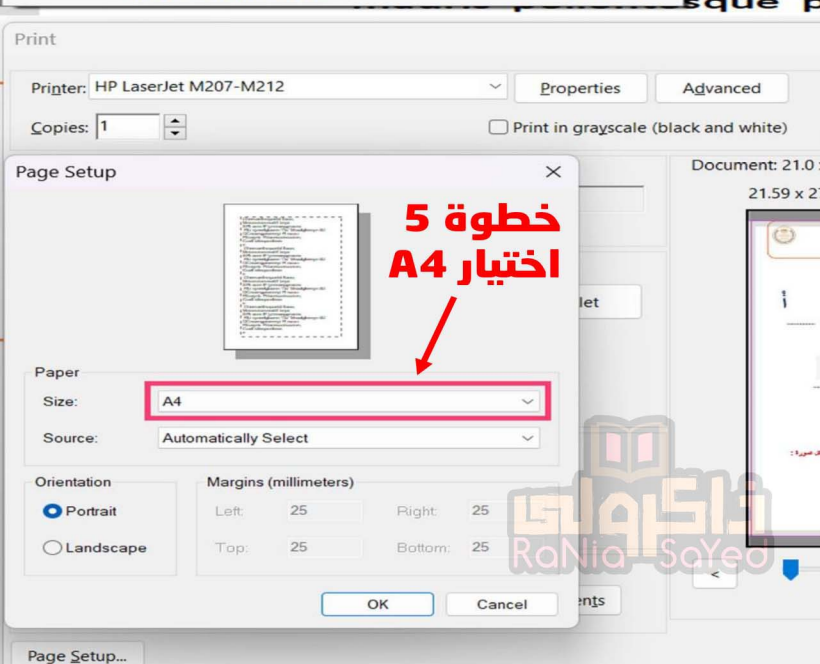
خطوة 1



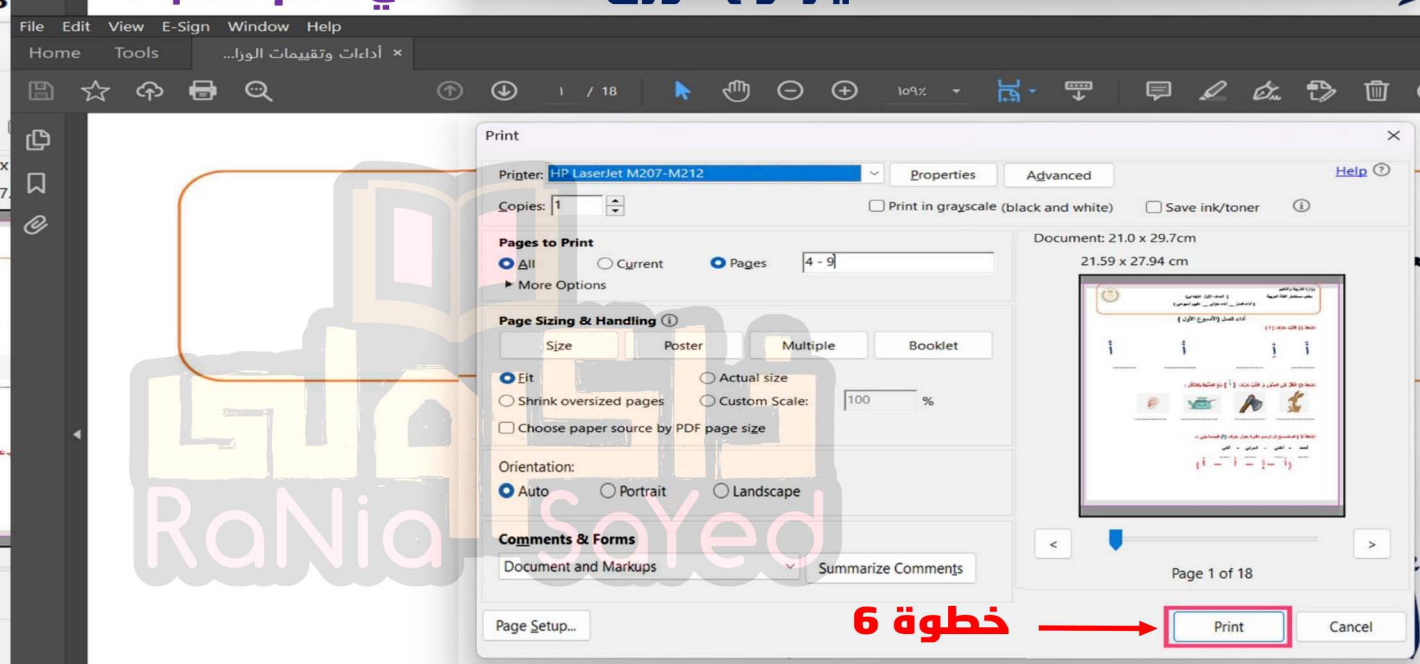
خطوة 2
اختيار اسم
الطابعة
بتاعتك

خطوة 3
كتابة الصفحات
المراد طباعتها
نكتب رقم 4 ثم
نكتب الشرطة
دي - ثم نكتب 9

خطوة 4
اختيار نوع الورق



خطوة 5
اختيار A4



خطوة 6

حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر ابريل



1

Summary of

Concept 1

- The Earth's surface always changes.

Sandcastles

- They have steep parts and sloping sides at the bottoms.
- They disappear after a **short time** due to the erosion of the sea waves.

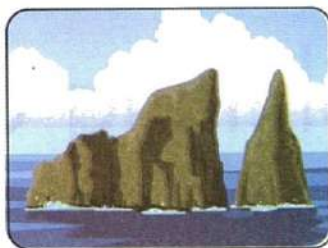
(A rapid change)



Coastal rocks

- They have steep parts and sloping sides at the bottoms.
- There may be a little difference as breaking off some parts by wind or water after many years.

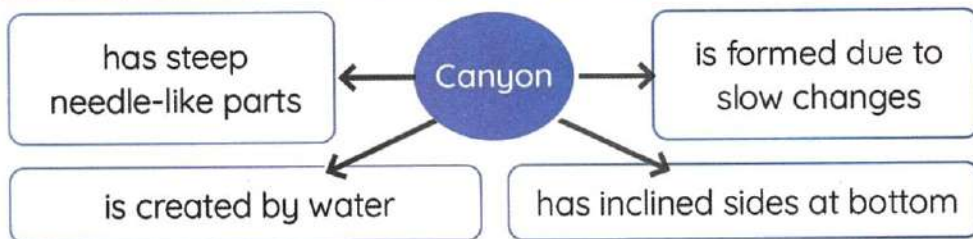
(A slow change)



Canyons

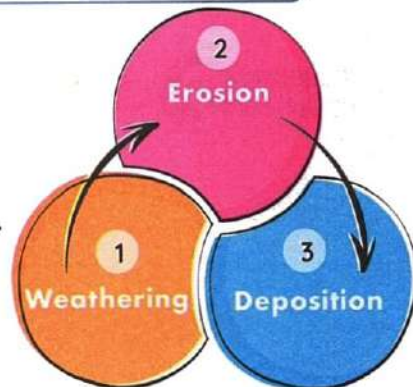
- They have steep needle-like parts with slopes at the sides.
- They take millions of years to be formed.

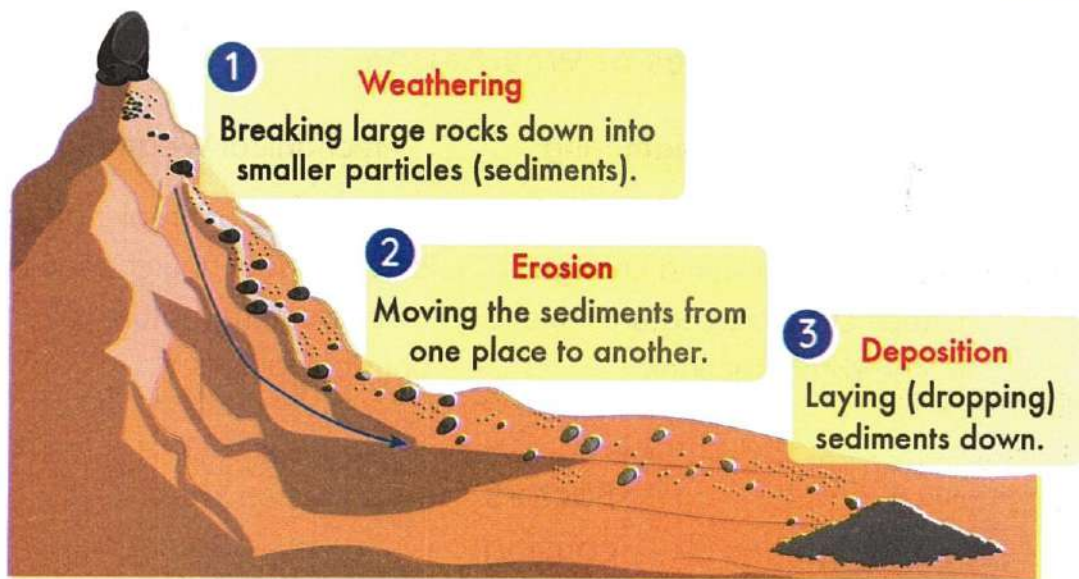
(A slow change)



Shaping the Earth's surface

- Wind**, **water**, and **weather conditions** are the factors that cause changes of the Earth's surface.
- Earth's surface changes through three processes which are **weathering**, **erosion**, and **deposition**.





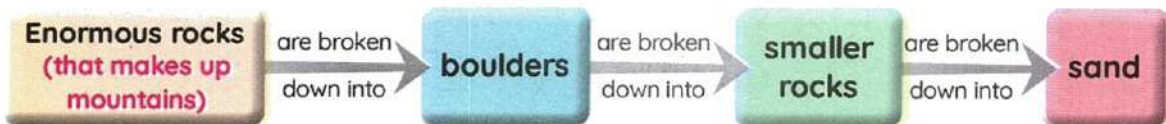
1 Weathering:



- The changing of the Earth's surface begins with the **weathering process**.

Weathering

Is the process of breaking down rocks into small (tiny) particles.



A breakdown (crumbling) of statue.



Weathering may cause

Paint to peel on a building.

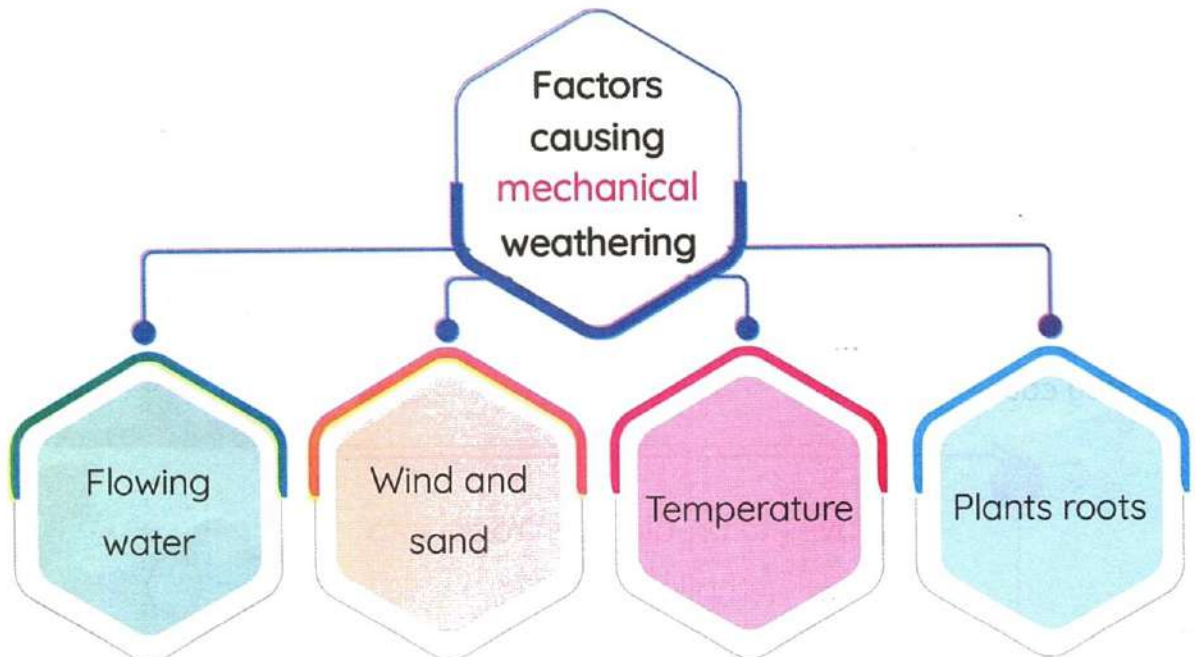
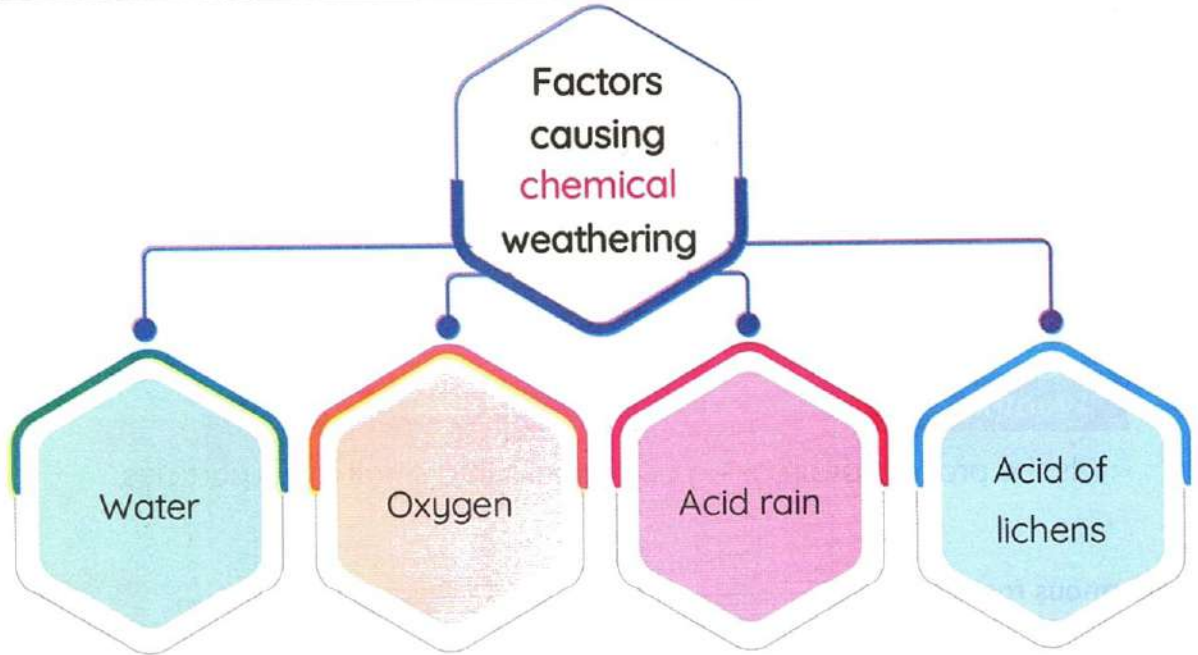


Waves to break down rocks into smaller particles.



Types of Weathering

P.O.C	Chemical Weathering	Mechanical Weathering
Definition	The process of breaking rocks down with a change in their structure (nature) due to chemical reactions.	The process of breaking rocks down without any change in their structure (nature) due to physical factors.





Water

- Water dissolves minerals in the rocks, and then those **dissolved minerals** recombine again, forming new shapes, as in **limestone caves**.

Oxygen



- Oxygen** in the air reacts with the **iron** in some rocks, forming **red-colored rust** that causes rocks to be weak and easily broken.

Factors causing chemical weathering



Acid rain

- Acid rain falls on rocks.
- These acids dissolve minerals in the rocks, so they become weaker and break down easily.

Acid of lichens



- Lichens produce acids on rocks.
- These acids dissolve minerals in the rocks, so they become weaker and break down easily.



Flowing water

- Flowing water carrying some sand and gravel causes:
 - Scouring edges off boulders.
 - Breaking off large pieces of tumbled rocks due to collision with each other.

Plants roots



- Plant roots grow inside the cracks of rocks.
- Cracks become wider.
- Rocks are broken down.

Factors causing mechanical weathering

Wind and sand



- Wind rushes sand on the rock surface.
- Friction occurs between sand and rocks.
- This causes the smoothing of rocks and the breaking down of them.

Temperature

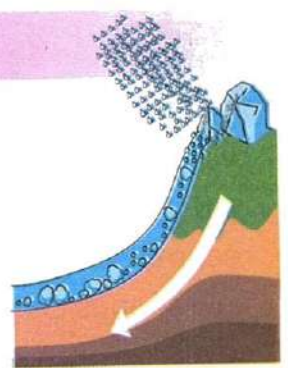


- Water flows in the tiny cracks in the rocks.
- Water expands when it turns into ice, then melts.
- By repeated melting and freezing of water, cracks in rocks become wider, causing the rocks to be broken down.

2 Erosion:

Erosion

It is the process of moving sediments from one place to another.



- **Note:** Sediments are weathered sand, soil, and small rocks.

Factors causing erosion



Gravity

- Gravity pulls rocks down mountainsides.



Wind

- The wind carries grains of sand from one place to another, where:
 - Strong wind and hurricanes blow sand for long distances.
 - Gentle wind blows sand grains for short distances.



Water

- **Rivers** and **floods** erode rocks and soil from their banks.
- **Waves** pull sand away from beaches.
- **Rain** washes the soil on hilly farmland downhill.



3 Deposition:

Deposition

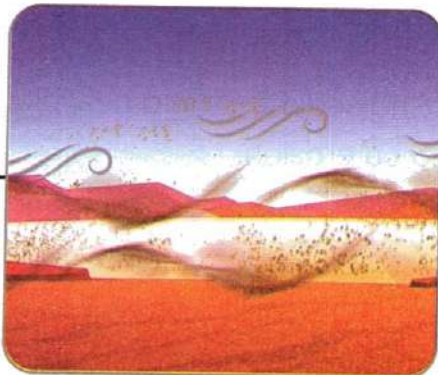
It is the process of laying down eroded sediments in a new place.

1 Deposition by wind:

- As the wind blows, it picks up sand.
- Wind carries sand to another place.
- When the wind stops blowing, sand is deposited.

This forms:

- a Small sand dunes on beaches.
- b Large sand dunes in desert.

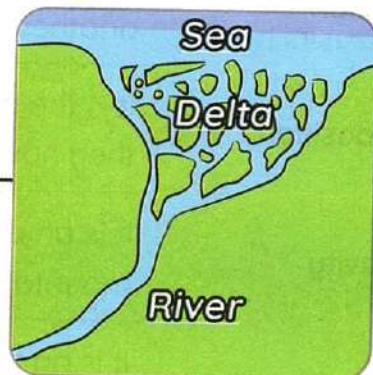


2 Deposition by water:

- A river carries sediment eroded from its banks.
- When the river carrying sediments meets a sea, it deposits them.

This forms:

- A delta, such as Nile Delta



2

Definitions of

Concept 1

Weathering	It is the process of breaking down rocks into smaller pieces.
Mechanical weathering	It is a type of weathering that breaks off rocks without changing its matter(structure).
Chemical weathering	It is a type of weathering that leads to the formation of a different material.
Lichens	They are tiny-like plants that live on rocks and produce acid on them, causing them to break down.
Oxygen gas	It is the gas that reacts with iron in rocks, forming a red-colored rust on some rocks.
Plant's roots	They are a part of the plant that grows in rocks' cracks, causing them to be broken.
Acid rain	It is a natural phenomenon that has the same effect as lichens on rocks.
Erosion	It is the process of moving sediment from one place to another.
Deposition	It is the process of settling sediments in a new place after they have been moved by erosion.
Gravity	It is an eroding factor that pulls the rocks down mountainsides.
River	It is an eroding factor that moves rocks from their banks downstream.
Sediments	They are pieces of weathered rocks that are moved by gravity, wind, water, or other factors.

3

Give Reasons for...

Concept 1

- 1 **The Earth's surface is always changing.**
 - Because of many factors, such as wind, water, and weather.
- 2 **Wind is the main factor changing the Earth's surface.**
 - Because it can break down rocks and move small rocks to another place.
- 3 **Waves are from factors which can change landforms.**
 - Because waves can move small parts of sand from one place to another.
- 4 **Changes to the Earth's surface are different in the time of happening.**
 - Because some changes of the Earth surface happen quickly, such as the disappearance of sandcastles, while others take a very long time, such as formation of canyons.
- 5 **The shape of coastal rocks changes after many years.**
 - Because some parts of them may be broken off by water or wind.
- 6 **The main source of soil is big rocks.**
 - Because when the weathering process occurs, the big rocks break down into tiny rocks, then into pebbles or grains of sand.
- 7 **Oxygen gas has a bad effect on rocks.**
 - Because oxygen gas can react with iron in rocks forming red-colored rust which makes the rock weaker and breaks down easily.
- 8 **Plant roots may have a bad impact on rocks.**
 - Because as plant roots grow inside rocks, the cracks in the rocks become wider, so the rocks break down.
- 9 **Lichens have a bad impact on rocks.**
 - Because they produce acids as they grow on rocks that make the rock weaker and break off easily.
- 10 **There are some similarities between the effects of lichens and acid rain on rocks.**
 - Both of them can dissolve the rocks or changing their nature.
- 11 **Sand and wind team up to wear down large rocks.**
 - Because wind rushes sand on the surface of the rocks, it smoothes and breaks them down.
- 12 **It is hard to see weathering in action (in most cases).**
 - Because it takes a long period of time to happen.

Final Revision

- 13 **Chemical weathering causes a greater change to rocks than mechanical weathering.**
 - Because chemical weathering forms completely new, different matter, while mechanical weathering breaks down rocks only.
- 14 **Sometimes you can see erosion happening.**
 - Because sometimes we can see flash floods, hurricanes, or landslides.
- 15 **Gravity is one of the eroding factors.**
 - Because gravity pulls rocks down mountainsides.
- 16 **Erosion and deposition are linked processes.**
 - Because eroded rocks must be deposited over time.
- 17 **The formation of a delta.**
 - As a result of the deposition process when a river meets a sea.

4

What Happens if...?

Concept 1

- 1 **The waves hit a sandcastle?**
 - The sandcastle will be gone (disappeared).
- 2 **Water runs over rocks?**
 - Water will dissolve some minerals in rocks.
- 3 **Oxygen in our atmosphere reacts with iron in the rock?**
 - A red-colored rust will be formed, so rocks are broken down more easily.
- 4 **The continuous melting and freezing cycle of water inside rocks cracks?**
 - Water expands, causing the cracks in the rocks to become wider, so the rocks break off.
- 5 **Acid rain falls on rocks?**
 - Acid rain will dissolve the minerals in rocks, so they become weaker and break down easily.
- 6 **Lichens grow on the rocks?**
 - They produce acids that can break off rocks.
- 7 **A plant's root grows inside rocks?**
 - The cracks become wider so rocks break down easily.
- 8 **Rain falls on a hilly farmland?**
 - Rain will carry the weathered rocks and soil on farmlands.
- 9 **Wind stops blowing (concerning the process happening to sand)?**
 - The deposition process will happen.
- 10 **A river carrying sediments meets a sea?**
 - The deposition process happens and a delta may be formed.

5

Revision on

Concept 1

1 Choose the correct answer:

- 1 Steep valleys formed due to flowing water erosion are called _____.
 a. hills b. sand dunes c. canyons d. deltas
- 2 A canyon may take _____ to be formed.
 a. minutes b. hours c. days d. years
- 3 All the following are reasons for chemical weathering, except _____.
 a. water b. plant roots c. acid rain d. oxygen gas
- 4 _____ may cause chemical or mechanical weathering.
 a. Lichens b. Oxygen c. Water d. Rocks
- 5 Which of the following examples represents mechanical weathering?
 a. Red-colored rust on rocks b. Acid rain falls on rocks.
 c. Roots grow inside rocks. d. Water dissolves minerals.
- 6 Sand is formed due to the breaking down of _____.
 a. wood b. plastic c. glass d. rocks
- 7 Limestone caves are formed due to the combination of _____.
 a. dissolved minerals b. insoluble minerals
 c. red-colored rust d. acid rain
- 8 _____ is the process by which sediments are carried to another place.
 a. Deposition b. Erosion c. Weathering d. Melting
- 9 Dissolving minerals from rocks to recombine with new substances is an example of _____.
 a. mechanical weathering b. weathering by wind
 c. chemical weathering d. erosion
- 10 All the following are processes that change the Earth's surface, except _____.
 a. erosion b. digestion c. weathering d. deposition
- 11 Lichens produce _____ that dissolve(s) minerals found in rocks.
 a. oxygen b. rain c. water d. acids

Final Revision

- 12 The process of breaking down rocks on the Earth's surface is called
a. erosion b. weathering c. decomposition d. deposition
- 13 The force of pulls rocks from the top of the mountain to its bottom.
a. river water b. seawater c. rainwater d. gravity
- 14 erode(s) rocks and soil from their banks.
a. Rivers b. Mountains c. Rainwater d. Gravity
- 15 When a river carrying sediments meets a sea, a is formed.
a. sand bar b. sand dune c. delta d. sand pile
- 16 Gentle wind can carry sand grains for distances.
a. short b. long c. huge d. very long

2 Put (✓) or (X):

- 1 The Earth's surface changes from time to time. ()
- 2 All changes to the Earth's surface take hundreds of years. ()
- 3 Canyons take millions of years to be formed. ()
- 4 The Earth's surface never changes. ()
- 5 The deposition process takes place before the erosion process. ()
- 6 We can see weathering in action everywhere around us. ()
- 7 Plant roots help in the formation of rocks. ()
- 8 Rocks become stronger when iron found in them rusts. ()
- 9 Wind is one of the agents that cause weathering. ()
- 10 Chemical weathering causes greater changes to rocks than mechanical weathering. ()
- 11 Sometimes you can see erosion happening. ()
- 12 The deposition process never changes the shape of the Earth's surface. ()
- 13 The formation of sand dunes in the Eastern Desert in Egypt is due to the movement of the wind. ()
- 14 Floods are one of the factors that cause water erosion. ()
- 15 The erosion process is usually followed by the weathering process. ()

3 Write the scientific term:

- 1 They are deep valleys carved by the flowing water. (.....)
- 2 It's the process of moving rocks from one place to another. (.....)
- 3 It's the process of laying sediments down. (.....)
- 4 It's the kind of weathering that changes the structure and color of rocks. (.....)
- 5 They are tiny, like plants, that live on rocks and produce acids on them. (.....)
- 6 It is the gas that causes the red-colored rust on some rocks. (.....)
- 7 It is a type of weathering that occurs in rocks and leads to the formation of a completely different material. (.....)
- 8 It is a type of weathering that breaks rocks down without changing their matter. (.....)
- 9 It is an eroding factor that pulls rocks down mountainsides. (.....)
- 10 It is an eroding factor that moves rocks from their banks downstream. (.....)
- 11 It is the process that lays sand down when the wind stops blowing. (.....)
- 12 It is a landform of deposited sediments formed when a river meets a sea. (.....)

4 Complete the following using the words between the brackets:

A (Mechanical - Acid rain - chemical - oxygen - Acids - iron - plant roots)

- 1 The melting and freezing cycles of water have the same effect as, as they make the cracks in the rocks wider.
- 2 produced by lichens may dissolve rocks.
- 3 has the same effect of lichens on rocks.
- 4 weathering and weathering are types of weathering.
- 5 When the in air reacts with in rocks, a red-colored rust is formed.

B (water - Nile Delta - hurricane - deposition - gentle wind - Egyptian Western Desert)

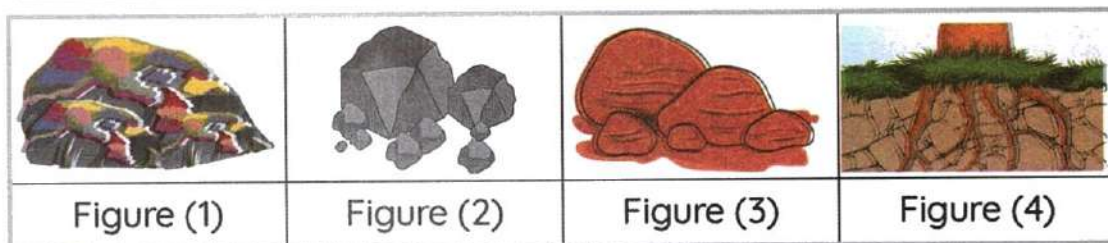
- 1 A forms a small sand dune, while a forms large sand dunes like that in the
- 2 is a fan-shaped mass of mud and sediments.
- 3 Wind,, and gravity are natural factors that control erosion process.
- 4 The process of laying down sediment after its erosion is called

5 Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
1 Lichens	a. causes mechanical weathering of rocks.
2 Water	b. causes the red-colored rust on a toy car.
3 Oxygen	c. produce acids as they grow on rocks.
4 Melting and freezing	d. may cause both types of weathering.

1 2 3 4

6 Study the following figures, then complete the following sentences:



- 1 Figure (.....) represents a living organism that causes mechanical weathering.
- 2 Figure (.....) represents a living organism that causes chemical weathering.
- 3 Oxygen gas has a bad effect on rocks in figure (.....).

7 Give reasons for:

- 1 The Earth's surface is always changing.
.....
- 2 Oxygen in the atmosphere has a bad effect on some rocks.
.....
- 3 Lichens dissolve rocks as they grow.
.....
- 4 Chemical weathering causes greater changes to the rocks.
.....
- 5 Erosion and deposition are linked processes.
.....

8 What happens if?

- 1 Oxygen gas reacts with iron rocks, forming a red-colored rust?
.....
- 2 Acid rain falls on rocks?
.....
- 3 The lichens that grow on rocks produce acids?
.....
- 4 Plant roots grow inside rocks' cracks?
.....

Concept

2

Changing Landscapes

1

Summary of

Concept 2

- Many factors can change the Earth's surface and form **new landforms**, such as:



Canyon



Sand Dune



Valley



Delta

1

Canyons:

They are special types of valleys carved by flowing water.

Processes

Weathering and **erosion**

Factors

Water, **wind**, and **other factors**

Age

Canyons take **millions of years** to be formed.

Properties

- The sides are **steep**.
- Walls are **narrow** and **vertical**.
- They usually consist of **many layers**.

How are canyons formed?

- Gravity pulls rainwater downhill, forming small streams.
- Small streams are joined together to form a bigger stream (river).
- The water of the river moves fast and erodes rocks in its pathway.
- When a river dries after a very long time, a canyon may be formed.

Factors affect the shape of the valley

1

The types of rocks

2

Speed of the river

3

Size of the river

4

Age of the river

Examples of canyons and their properties

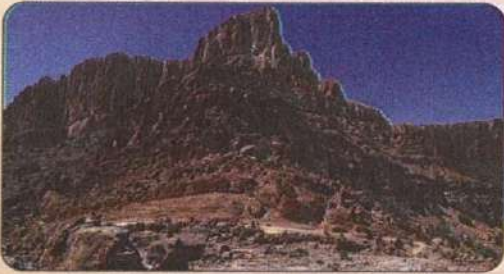
① The Grand Canyon

- The Grand Canyon is the largest canyon in the world.

Location	United States of America
Age	It is millions of years old.
Shape	- It is very large and steep. - It contains many layers of rocks. - There is a river at the bottom.



② Wadi Nakhr (Oman)



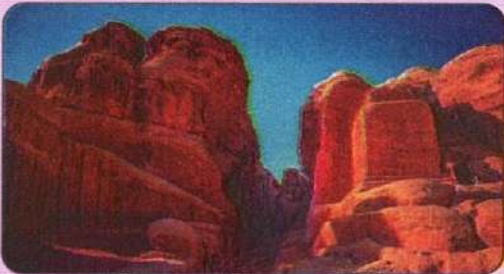
- Color:** Brown and black

③ Small Canyons (Thiland)



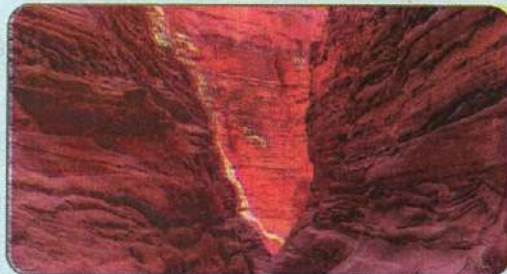
- Color:** Reddish

④ Wadi Rum (Jordan)



- Color:** Reddish
- V-Shaped**

⑤ Colored Canyon (Sinai)



- Color:** Reddish
- V-Shaped**

Final Revision

- **When water is moving over the sand,** it pushes some of the sand away and leaves an impression.
- **Small canyon:**



How is it formed?	A stream of water may have formed it.
What is your evidence?	• There are trees and plants on both sides. • The sides are gently sloped
What happens if it rains a lot on it?	It will become deeper.



2 Valleys:

They are lowland areas between mountains.

Processes	Weathering and erosion
Factors	Water, wind, and other factors.
Properties	• The sides are gently sloped. • They are usually surrounded by a wide, flat plain.

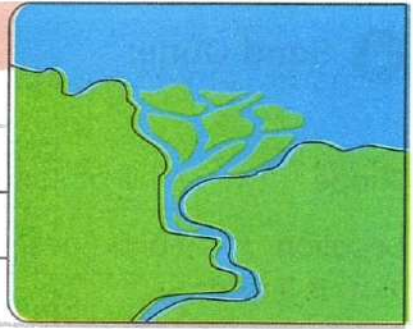


Similarities between canyons and valleys

- They are formed by rivers or streams.
- They often have rivers or streams flow in the bottom.

3 Delta:

Process	Deposition
Factor	Water
Shape	Triangular (fan) shape



How is delta formed?

1 Fast-moving rivers carry sediments called **silt**

2 The water of the river is full of sediment that has been collected along the journey.

3 When the **rapid flowing water** "of the river" enters **still water** "lake", or **slower water** "ocean or sea", water loses energy and drops the sediment that it is carrying, forming a **delta**

Silt is made up of very fine bits of **sand**, **clay** or **rock materials**

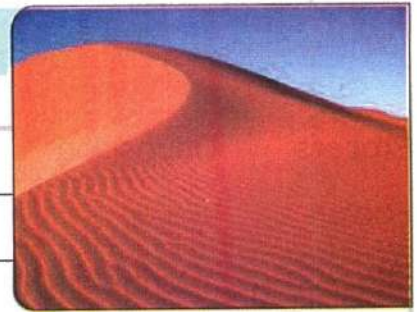
- The **wetland of plants in the delta helps in increasing deposition** Because they are responsible for slowing down the water in the river.

The Nile River Delta

"The most famous delta in the world".

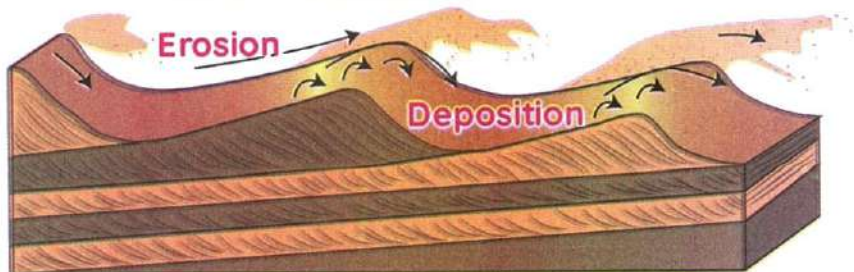
Area	It covers over 20,000 km² in Egypt.
Location	Lies between Cairo and the Northern coast of Egypt.
Importance	It is characterized by the presence of fertile soil that allows the cultivation of different types of crops.

4 Sand Dune:



Shape	A hill of sand
Location	Sandy desert or sandy beach
Area	• They are found in groups. • They may cover a large area. (Hundreds of meters tall).
Processes	Erosion and deposition
Factors	Wind-blown sand
How they are formed?	Sand dunes are formed when a barrier like a rock blocks the wind-blown sand.

Sand Dunes Movements



- Dunes are interesting because they are constantly moving, as follows:

1

When wind blows across a dune,

it erodes away the sand grains from the side it blows.

2

The grains of sand are carried up by the wind along the slope of the dune.

3

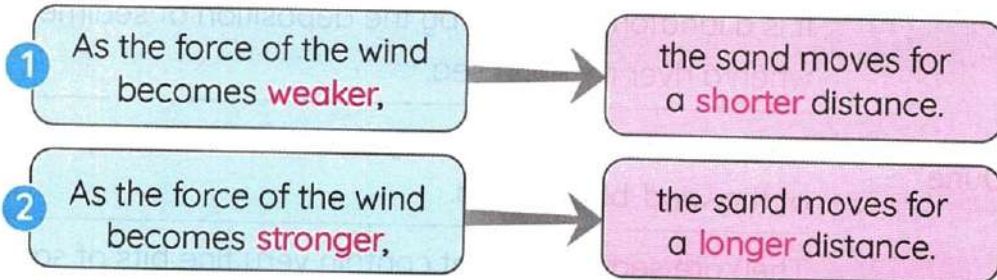
When they reach the top,

the dune forms a **barrier** to the wind.

So, the sand grains roll down the other side.

Wind Erosion

- The wind in the desert can be a powerful force of change.
- Wind and sand work together to erode rocks.
- The **distance** that the sand grains move depends on the **force** of the wind.



- The **way** the sand moves depends on the **direction** of the wind.

Steps of Erosion by Wind

- 1 When wind blows across the land, it picks up sand and other rock particles and carries them along.

- 2 When this flying sediment hits a rock, it wears down that rock like a sandblaster.

- 3 This process carves the rock into strange shapes.



Recognizing signs of weathering, erosion, and deposition is very useful.

Because it helps us build houses in safe places, where:

- 1 People must not build a house on a hill that is eroding.
- 2 People must not build a house very close to a river.



2 Definitions of Concept 2

Valleys	They are lowland areas between mountains.
Canyons	They are special types of valleys with steep sides.
Delta	It is a landform formed by the deposition of sediments when a river meets a sea.
Sand Dune	It is a hill of sand created by the erosion and deposition of the wind-blown sand.
Slits	They are sediments that contain very fine bits of sand, clay, or rock materials.

3 Give Reasons for... Concept 2

- You must avoid building a house on a hill and exposing it to erosion.**
 - Because the river may change its path and cause erosion and deposition of the house.
- There are similarities between valleys and canyons.**
 - Because both of them were formed by flowing water.
 - Because they may have rivers or streams flowing through their bottoms.
- A delta is formed when flowing water enters still water.**
 - Due to the deposition process, as water loses energy and drops its sediments forming a delta.
- The roots of plants increase the deposition of rivers' sediments.**
 - Because the roots of plants slow down the water movement, which increases the rate of the deposition process.
- Delta allows the cultivation of different types of crops.**
 - Because it has fertile soil.
- Sand dunes are constantly moving.**
 - Due to the force of the wind.

4

What Happens if...?

Concept 2

- 1 Streams of water flow over flat land?
 - They may form small canyons where they flow.
- 2 It rains a lot in a small canyon?
 - This small canyon will get deeper.
- 3 Small streams of water join together?
 - It will form a river, which causes more erosion.
- 4 The wind blows across a sand dune?
 - Sand grains are eroded away from the side of the wind coming from.
- 5 Wind-blown sand hits a big rock?
 - Sand is deposited, forming a sand dune.
- 6 The force of the wind carrying sand increases?
 - Wind will move sand grains for a longer distance.
- 7 The direction of the wind changes?
 - The way the sand moves changes.

1 Choose the correct answer:

- 1 A canyon may take of years to be formed.
 a. hundreds b. tens c. millions d. couple
- 2 Canyons can be formed in many ways, including
 a. weathering only b. erosion only
 c. weathering and erosion d. erosion and deposition
- 3 If the rain falls over a canyon several times per year,
 a. its depth increases b. its depth decreases
 c. it becomes flat d. not be affected
- 4 The shape of a rock gets worn and rounded by the effect of the process.
 a. weathering d. deposition c. erosion d. photosynthesis
- 5 is/are evidence of deposition.
 a. A rounded, worn rock b. A patch of sand on the ground
 c. An area with canyons d. Red-colored rocks
- 6 A river may make a new at its end through the process.
 a. mountain, deposition b. canyon, erosion
 c. land, deposition d. land, weathering
- 7 pulls rainwater downhill, forming small streams.
 a. Magnetism b. Gravity c. Sunlight d. Wind
- 8 All the following factors affect the shape of the valley, except
 a. the river's size b. the river's speed
 c. the rocks' type d. the rocks' color
- 9 A is a deep valley with high, steep sides.
 a. hill b. mountain c. canyon d. dune
- 10 are lowland areas with gently-sloped sides.
 a. Valleys b. Deltas c. Canyons d. Dunes
- 11 When a river meets a sea or an ocean, a landform known as a is formed.
 a. canyon b. volcano c. mountain d. delta

- 12 All the following are created by the water of rivers or streams, except
 a. deltas b. canyons c. valleys d. sand dunes
- 13 Silt carried by water contains all the following, except
 a. sand b. clay c. rocks d. glass
- 14 A sand dune is formed by the process, then the process.
 a. deposition, erosion b. erosion, weathering
 c. erosion, deposition d. deposition, weathering
- 15 Which of the following factors helps in the formation of sand dunes?
 a. Water b. Wind c. Light d. Heat
- 16 When a rock blocks the path of flying sand, a may be formed.
 a. dune b. river c. canyon d. delta

2 Put (✓) or (X):

- 1 Wadi Rum in Jordan is an example of a sand dune. ()
- 2 All canyons have the same shape, texture, and color. ()
- 3 The sides of the canyon at the beginning of its formation are gently-sloped. ()
- 4 Understanding the formation of landforms helps us predict future changes of landforms. ()
- 5 It is better to build your house on a hill that is eroding. ()
- 6 A river never changes its path, so it's safe to build a house near any river. ()
- 7 When a river moves down a steep slope, its speed decreases. ()
- 8 Most valleys are formed due to the erosion of many sediments and their transfer far away. ()
- 9 The shape of the valley depends on the type of its rocks. ()
- 10 A slow-moving river has a lot of energy, so it causes more erosion. ()
- 11 A delta is formed when the speed of the river water increases. ()
- 12 Silt carried by a river contains large bits of sand and clay. ()
- 13 Sand dunes are formed when a rock blocks water-blown sand. ()
- 14 Sand dunes are formed by the deposition process only. ()

Final Revision

- 15 The formation of sand dunes in the Eastern Desert in Egypt is due to the movement of wind. ()
- 16 Dunes are formed at the bottom of seas. ()

3 Write the scientific term:

- 1 It's a deep valley that formed due to the weathering and erosion of wind and water. ()
- 2 It's a force that pulls rainwater downhill, forming small streams. ()
- 3 It's the world's largest canyon, located in the USA. ()
- 4 They are often found at the bottom of both canyons and valleys. ()
- 5 It's a sediment carried by a river that contains sand, clay, and rock materials. ()
- 6 It's a fan-shaped land that is formed when a river meets a sea. ()
- 7 It's a process that causes the carving of rocks into different shapes by wind-blown sand. ()

4 Complete the following using the words between the brackets:

A (small canyon - impression - V-shaped - water stream - brown and black-colored)

- 1 When the rain falls on a flat sandy land, it will leave an _____.
- 2 Wadi Nakhr is a _____ canyon.
- 3 Wadi Rum and colored canyon in Sinai are _____ canyons.
- 4 In the beginning of a _____ formation, plants and trees grow at the two sides of it due to the effect of the _____.

B (less - high - more - gravity - increases - sediments - many layers)

- 1 Rainwater is pulled downhill, forming a small stream due to _____.
- 2 When the water of a river moves downhill on a steep slope, the water speed _____, which causes _____ erosion.
- 3 A small stream causes _____ erosion than a large river.
- 4 The force of rushing water erodes a lot of _____ of a mountain and carries them away.
- 5 Walls of canyons are very _____ and are composed of many _____.

C (deposition - canyon - fan - decreases - increases - delta)

- 1 A is formed by the erosion process, while a is formed by the deposition process.
- 2 The Nile River Delta has a shape.
- 3 When the stream water speed, it causes of sediments.
- 4 When the force of blowing wind, the blown sand is carried for a longer distance.

5 Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 Wadi Nakhr	a. is a black and brown canyon in Oman.
2 Wadi Rum	b. is a V-shaped canyon in Jordan.
3 Small canyon	c. is a reddish canyon in Thailand.

1 2 3

B

Column (A)	Column (B)
1 Erosion	a. is the fine particles of clay, sand, and rock materials.
2 Deposition	b. occurs when a stream water rushes quickly downhill a mountain.
3 Sand dunes	c. are hills of sand usually seen in groups and they may cover large areas.
4 Silt	d. occurs when a stream water speed slows down at the end of a river.

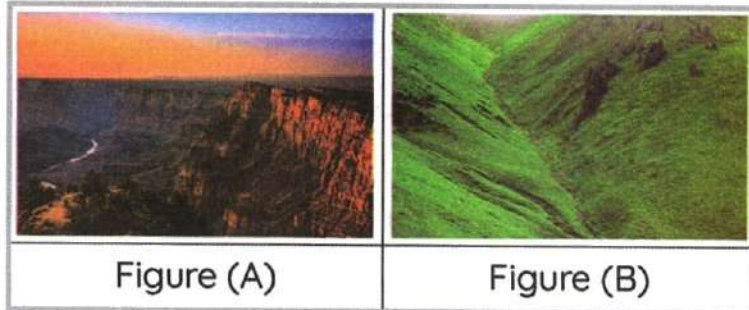
1 2 3 4

6 Cross out the odd word:

Mountain - Valley - Gravity - Canyon

()

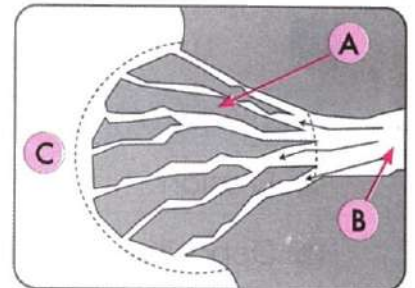
7 Study the following figures, then put (✓) or (X):



- The landform in figure (A) has gently-sloped sides. ()
- The landform in figure (B) may be surrounded by some plains between mountains. ()
- Both landforms are formed due to erosion carried by rivers. ()
- The walls of the landform in figure (A) are higher than those in figure (B). ()

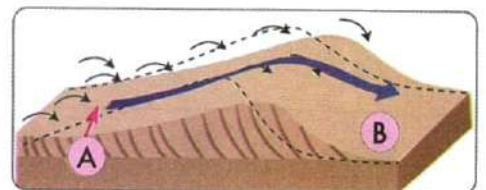
8 Study the following figure, then choose the correct answer:

- The area (A) would become a
(delta - canyon) due to the
(erosion - deposition) process.
- The (area "C" - area "B")
could be a sea or a lake.
- The (area "C" - area "B") is a river.



9 Study the following figure, then complete:

- The erosion of sand occurs in area
- The deposition of wind-blown sand occurs in area



10 Give reasons for:

1 It is not safe to build a house close to a river.

2 Valleys and canyons are formed in the same way.

3 Sand dunes are formed in a desert.

11 What happens if?

1 A water stream flows over a flat land?

2 A lot of rain falls on a small canyon?

3 Small streams of water are joined together? (concerning erosion)

4 A river carrying sediments meets a sea?

5 Wind-blown sand grains hit a big rock in the desert?

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

اختبار شهر ابريل





Exercises on Lesson 3

Choose the correct answer:

- 1 Water flows through turbines in hydroelectric dams to generate energy.
☐ a electrical ☐ B potential ☐ C solar ☐ D light
- 2 In water turbines, the energy of water is changed into electrical energy.
☐ a chemical ☐ B kinetic ☐ C thermal ☐ D light
- 3 The reason of flowing of river water downhill is the force.
☐ a pushing ☐ B friction ☐ C gravitational ☐ D electrical
- 4 Using of water to generate electricity depends on places
☐ a with strong winds. ☐ B where dams are built on rivers.
☐ C with weak winds. ☐ D where boats sail in rivers.
- 6 Both waterfalls and are renewable energy resources.
☐ a wind ☐ B coal ☐ C oil ☐ D fossil fuel
- 7 The water behind a dam stores energy.
☐ a kinetic ☐ B thermal ☐ C potential ☐ D electrical
- 8 Both water and wind use energy to operate turbines.
☐ a kinetic ☐ B thermal ☐ C electrical ☐ D solar
- 9 The form of energy resulted from waterfalls is called energy.
☐ a thermal ☐ B chemical ☐ C solar ☐ D hydroelectric
- 10 Which of the following is a renewable energy resource PR shodesnsees
☐ a Running bicycle. ☐ B Running car. ☐ C Running water. ☐ D Running person.
- 11 In the water cycle, water, then it..... before falling in the form of rains.
☐ a freezes — evaporates ☐ B evaporates — condenses ☐ C evaporates — freezes ☐ D condenses — evaporates
 River water evaporates by the help of heat produced from
☐ a kettles. ☐ B the Sun. ☐ C electric heaters. ☐ D electric iron.

Put (✓) or (✗):

- 1 When water becomes free, potential energy is changed into kinetic energy. ()
- 2 The flow of water in dams can be controlled to generate electricity. ()
- 3 Electricity generated from water is called hydroelectricity. ()
- 4 Rivers store kinetic energy. ()



5 The electricity produced by water is known as electromagnetic energy

{ }

6 When water falls down on waterfalls, its kinetic energy decreases

{ }

Correct the underlined words :

1 The thermal energy generated by water turbines in dams is known as hydroelectricity.()

2 During the flowing of rivers water downhill, the chemical potential energy of water is converted into kinetic energy. ()

3 Dams are built on rivers in order to generate solar energy. ()

4 The electrical energy is generated by wind turbines in dams. ()

Complete the following sentences :

1 When rivers flow downhill, energy of water is converted into energy that rotates water turbine.

2 People build on rivers to control the water flow and increase its energy that is converted into energy in water turbines that is used to light houses.

3 Dams control the flow of..... that causes the increase of the energy of water.

4 The type of electrical energy which is produced by water turbines is called

5 Water and are from the renewable resources of energy which use energy to operate turbines and generate

6 We can use a device known as wind to generate electricity in places where strong air blows.

7 Water turbines are used to generate electricity in places which have waterfalls or , while wind turbines are used in places with strong

8 Hydroelectricity is generated by using water in dams.

9 Renewable energy resources include and.....

10 The movement of water in river is used to rotate water to generate electricity. ,



Exercises on Lesson 1

Choose the correct answer:

- 1can change the features of the Earth's surface.
 a Water b Wind c Weather d All the previous
- 2 All the following are landscapes that have changed over a long time , except
 a canyons b sandcastles c coastal rocks d mountains
- 3 Which of the following shapes may disappear quickly?
 a Canyons b Footprints on sand c Coastal rocks on the beach d Mountains
- 4 Sandcastles may be wrecked by the force of.....
 a water b wind c gravity d a and b
- 5 Sandcastles will.....after one year.
 a still the same b become stronger c disappear completely d partially affected
- 6 Steep valleys formed due to flowing water erosion are called.....
 a hills b sand dunes c canyons d deltas
- 7 A canyon may take.....to be formed.
 a minutes b hours c days d years

Put (✓) or (✗):

- 1 The surface of the Earth changes from time to time. ()
- 2 Water stream can break down rocks into smaller pieces. ()
- 3 When large particles of rocks are broken into smaller particles, they can be carried by the moving wind. ()
- 4 If you walk on the seashore and come the next day searching for your footprints, you will find them unchanged. ()
- 5 All changes that occur on the Earth' surface take hundreds of years. ()
- 6 Water and wind are artificial forces that are responsible for the erosion of sea coasts. ()
- 7 The changes that are observed in the formation of a canyon are faster than that observed in the disappearance of a sandcastle. ()



Correct the underlined words :

- 1 The Earth's surface is stable as time passes. ()
- 2 Gravity can change the shape of canyons. ()
- 3 The sandcastle becomes stronger after being hit by waves. ()
- 4 The shape of the canyon was formed in a very short time. ()

Complete the following sentences by using the words between brackets

(slow — erosion — fast — rocks — wind — water)

- 1 The shape of coastal rocks is affected by the forces of..... and wind.
- 2 The origin of sand is the breaking down of some types of
- 3 Air moving from an area to another and has a role in breaking down of rocks into smaller particles is known as
- 4 The process of transporting small rocks from one place to another by the help of water or wind is known as
- 5 Disappearance of a sandcastle is an example of... changes, while formation of a canyon is an example of Changes



Exercises on Lesson 2

Choose the correct answer:

- 1 The condition of atmosphere including temperature, wind and rains is known as.....
☐ a weather. ☐ B weathering. ☐ C erosion. ☐ D deposition.
- 2 The dropping of sediments in a new place, is known as
☐ a weathering. ☐ B deposition. ☐ C freezing. ☐ D erosion.
- 3 Limestone caves are formed due to the combination of.....
☐ a dissolved minerals. ☐ B red-colored rusts. ☐ C living organisms. ☐ D acid rains.
- 4 Lichens produce on rocks that dissolve minerals found in these rocks.
☐ a oxygen ☐ B acids ☐ C water ☐ D rain
- 5 Rusting of a statue is an example of the action ofprocess.
☐ a deposition ☐ B erosion ☐ C mechanical weathering ☐ D chemical weathering
- 6 Breaking of statues is an example of.....
☐ a erosion. ☐ B weathering. ☐ C deposition. ☐ D sedimentation.
- 7 All the following are processes that can change the Earth's surface, except.....
☐ a digestion. ☐ B erosion. ☐ C weathering. ☐ D deposition.
- 8 When water freezes, it expands. This means that.....
☐ a it will evaporates. ☐ C its temperature increases.
☐ B its volume increases. ☐ D its volume decreases.
9. All the following are from causes of chemical weathering, except
☐ a oxygen. ☐ B water. ☐ C acid rains. ☐ D clouds.
- 10 Water can produce that affect(s) the shape of the Earth.
☐ a mechanical weathering only ☐ B chemical weathering only
☐ C both mechanical and chemical weathering ☐ D neither mechanical nor chemical weathering

Put (✓) or (✗):

- 1 The deposition process takes place before the erosion process.
- 2 We can see weathering in action everywhere around us.
- 3 Weathering is the condition of the atmosphere in an area.
- 4 Living organisms may cause mechanical and chemical weathering.

()
()
()
()



- 5 Acid rain has the same effect on rocks as plant roots. ()
- 6 Melting and freezing change the volume of water in a rock's cracks and make them wider. ()
- 7 The broken down statues are evidence of the deposition process ()
- 8 Plant roots help in the formation of rocks. ()
- 9 Rocks become stronger when iron found in them rusts. ()
- 10 Wind is one of the agents that cause weathering. ()

Correct the underlined words :

- 1 The shaping of the Earth's surface begins with erosion process ()
- 2 When oxygen reacts with the iron in rocks, a green-colored is formed. ()
- 3 Stems of plants grow inside cracks of rocks, causing them to break down. ()
- 4 Carbon dioxide in the air always causes rust on rocks. ()
- 5 Limestone caves were formed due to mechanical weathering. ()
- 6 As plant roots grow inside rocks, the cracks become narrower. ()
- 7 The origin of sand is the breaking down of glass. ()

Complete the following sentences :

- 1 During process, rocks are broken down or weared away.
- 2 There are two types of weathering which are Weathering andweathering.
- 3 The type of weathering in which the rocks are broken down due to plant roots is known as Weathering.
- 4 The type of weathering in which the Structure of rocks changes due to chemical reactions is known as weathering.
- 5 Lichens produce acids on rocks that dissolves its
- 6 Mechanical weathering takes place when..... occurs between sand carried by wind and rocks.
- 7 Flowing water which carries small gravel and sand may break down large and cause weathering.



Exercises on Lesson 3

Choose the correct answer:

- 1 is the moving of sand or rocks to another place.
 a Weathering b Erosion c Deposition d Decomposition
- 2 The force of.....pulls rocks from the top of the mountain to its bottom.
 a river water b seawater c rainwater d gravity
- 3erode(s) rocks and soil from their banks.
 a Rivers b Waves c Rainwater d Gravity
- 4 When a river carrying sediments meets a sea,..... formed
 a canyon b sand dune c delta d snow
- 5is a process of settling rocks after moving to a new place.
 a Weathering b Erosion c Deposition d Evaporation
- 6 Weathered rocks can be eroded by all the following factors, except.....
 a gravity b water c sunlight d wind
- 7 A gentle wind can form.....
 a a delta b small sand dune c large sand dunes d a mountain
- 8occurs when eroded sediments stop moving and begin to build up
 a Deposition b Erosion c Weathering d Photosynthesis
- 9 Wind can create a hill of sand called.....
 a delta b a canyon c a valley d a sand dune
- 10 Gentle wind can carry sand grains for.....distance
 a short b long c huge d very long

Put (✓) or (✗):

- | | |
|---|-----|
| 1 gravitational force can cause erosion of the rocks. | () |
| 2 Sometimes you can see erosion happening. | () |
| 3 As the wind becomes stronger, it carries the sand grains for a shorter distance | () |
| 4 After weathering, small rock particles pile up and aren't moved from their place. | () |
| 5 Sediments are deposited where they are eroded and picked up. | () |
| 6 Blowing sand grains from one place to another by wind is called deposition. | () |



- 7 A delta is a rectangular-shaped mass of sediment formed when a river meets the sea. ()
- 8 Pulling sand from seashores by sea waves is called erosion. ()
- 9 The deposition process never changes the shape of the Earth's surface. ()

Mention the process from these words:

(Weathering - Erosion - Deposition)

- | | | |
|-------------------------------|---|---|
| 1 Acid rain falls on rocks. | (|) |
| 2 The wind stops blowing | (|) |
| 3 The formation of sand dunes | (|) |
| 4 Hurricanes and floods | (|) |
| 5 Formation of the delta | (|) |
| 6 Pulling sand from the beach | (|) |

Complete the following using the words between the brackets

(water - Nile Delta - hurricane - deposition - gentle wind - Egyptian western desert)

- 1 A forms a small sand dune, while a forms large sand dunes like that in.....
- 2 is a fan-shaped mass of mud and sediments.
- 3 Wind, and gravity are natural factors that control erosion process.
- 4 The process of laying down of sediment after its erosion is called



Exercises on Lesson 1

Choose the correct answer:

- 1 A canyon may take.....of years to be formed.
☐ a hundreds ☐ B tens ☐ C millions ☐ D couple
- 2 All the following are examples of landforms found on the Earth's surface, except.....
☐ a canyons ☐ B dunes ☐ C buildings ☐ D mountains
- 3 Canyons can be formed in many ways, including
☐ a weathering only ☐ B erosion only ☐ C weathering and erosion ☐ D erosion and deposition
- 4 If the rain falls over a canyon for several times per year,.....
☐ a its depth increases ☐ B its depth decreases ☐ C it becomes flat ☐ D not be affected
- 5 On flowing water from a stream over flat land, a.....may be formed.
☐ a large canyon ☐ B small canyon ☐ C hill ☐ D sand dune
- 6 Reddish small canyons found in.....
☐ a Egypt ☐ B Oman ☐ C Jordan ☐ D Thailand

Put (✓) or (✗):

- 1 A canyon may be formed due to the effect of wind weathering and erosion. ()
- 2 Wadi Rum in Jordan is an example of dune. ()
- 3 When the water is moving over the sand, it leaves an impression on it. ()
- 4 A canyon is formed due to the effect of water stream on a flat land. ()
- 5 A canyon may take one year only to be formed. ()
- 6 All canyons are similar in shape of rocks and colors. ()
- 7 Earth's surface changes continuously as it is affected by weathering and erosion. ()
- 8 Water streams that flow over flat land may form small canyons. ()
- 9 All canyons must have V-shape. ()



Complete the following using the words between the brackets:

(small canyon - impression - V-shaped - water stream - brown and black colored)

- 1 When the rain falls on a flat sandy land, it will leave an.....
- 2 Wadi-Nakhr iscanyon.
- 3 Wadi Rum and colored canyon in Sinai are.....canyons.
- 4 In the beginning of a..... formation, plants and trees grow at the two sides of it due to the effect of a.....

حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

اختبار شهر ابريل



Concept 3 : Renewable energy resources**Week (8)****Lesson 3 and 4 .****Date:** / /**Classroom Performance:****Falling Water**

Water flowing from high elevations can be used to generate electricity by building dams equipped with turbines.

**Think and answer:**

Why are turbines placed in dams?

.....

.....

Write a short paragraph explaining why we should use more hydroelectric power in the future .

.....

.....

.....

Imagine that you are a young engineer and you have designed a device that works by water energy. Draw this device and explain how it works and how it benefits people?

.....

.....

.....

.....

.....

.....

.....

Homework (Performance):

Complete the following statements:

- 1- Wind can be used to
- 2- The gravitational potential energy of rivers water convert to energy.
- 3- The in the dam generate electricity.
- 4- Water from is used in electricity generation .
- 5- Wind is aenergy resource.

Read the following statements and then correct the wrong one::

- 1- Water is non-renewable resource of energy .
- 2- Water from the rivers above the dam stores kinetic energy .
- 3- The electricity can be send along wires to cities.
- 4- We can generate electricity by wind and water .
- 5- The electricity that generated by water is called hydroelectricity.

Weekly assessment :

Test (1)

Answer the following questions :

1- Complete the following sentence:

We can use ,in generating electricity.

2- Write the scientific term :

Energy stored uphill water rivers.

3- Give reasons:

Turbines and generators in dams have important role.

4- What happens when:

Rivers run downhill.

5- Determine the input and output energies in turbines and generators inside the dams .

Test (2)

Answer the following questions :

1- Complete the following sentence:

From the renewable resources of energy ,

2- Write the scientific term :

Energy that make turbines and generators in dams works.

3- Give reasons:

The renewable energy resources are very important .

4- What happens when:

Turbines and generators are stopped in dam.

5- Determine the input and output energies in windmills.**Test (3)**

Answer the following questions :

1- Complete the following sentence:

..... and found in in the dam generate electricity.

2- Write the scientific term :

Energy that produced due to the operations of turbines and generators in dams.

3- Give reasons:

Dams have important role in electricity generation .

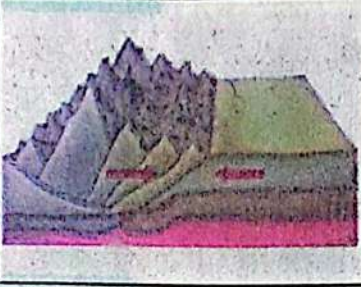
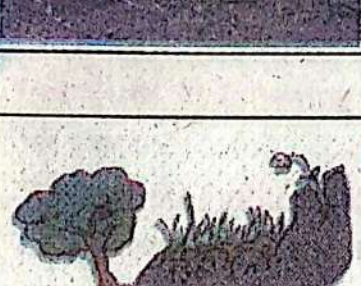
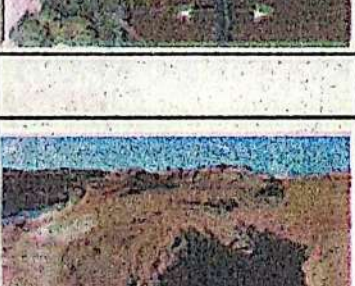
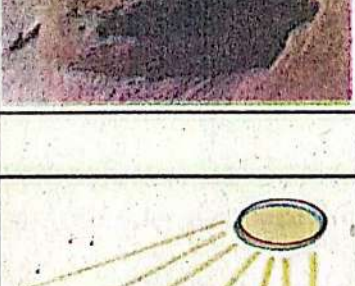
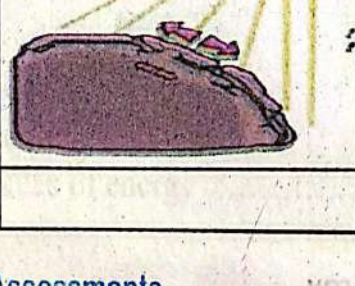
4- What happens when:

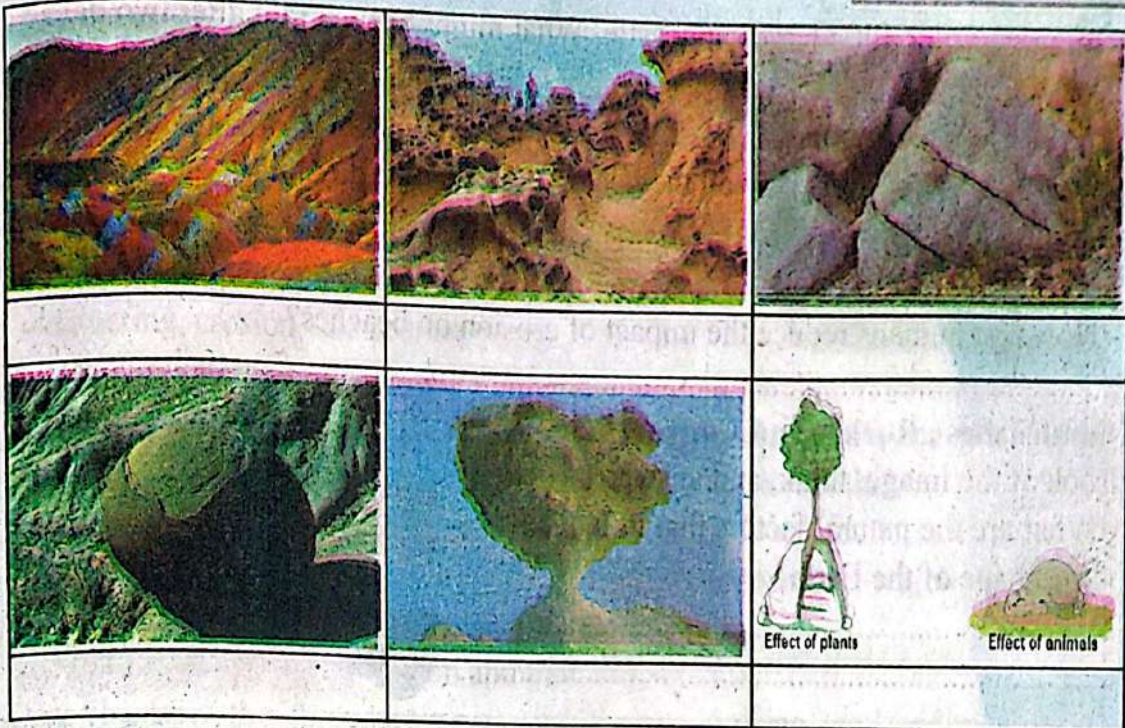
Stop building of dams.

5- Determine the output and input energies in watermills .

Classroom Performance:

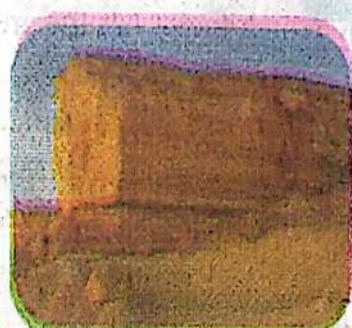
By observing the following images, identify below each image the reason for the breaking down of the rocks.



What I Already Know

The Earth's surface is constantly changing due to natural forces such as wind and water. Through the images in front of you, you will see how nature can reshape the Earth.

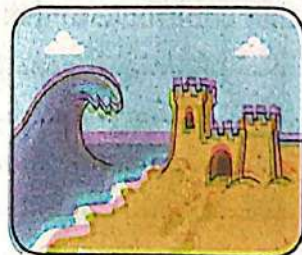


Think and then answer: How do these changes occur, and why are they important to our lives ?

Disappearing Sandcastles :

The Earth's surface is constantly changing due to natural factors such as wind and water.

A clear example of this is the disappearance of sandcastles from the beach shortly after they are built.



Second Term

- Imagine you built a large sandcastle. What might happen to it after two days?
- Why don't footprints stay on the beach until the next day?
- How can humans reduce the impact of erosion on beaches?

Sandcastles , Rocks , and Canyo

Look at the image, think, and answer:

- What are the natural factors that influence the shape of the Earth?



- Which is more rapid change: sandcastles or coastal rocks? Why?
- Which factor has the greatest influence on each: wind or water?
- What are the similarities and differences between coastal rocks and sandcastles?

Look at the image of the canyons; think about it, and then answer:

How are canyons formed? What are factors that contribute to their formation?

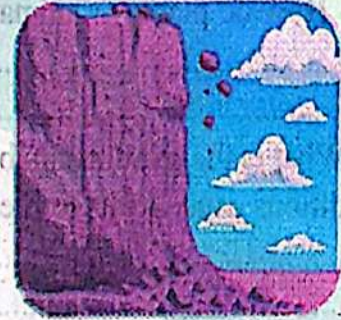


Shaping the Earth :

Have you ever noticed rocks breaking apart or soil moving from one place to another?

Have you seen a valley or a canyons in an image or in nature?

These things happen because of natural processes such as weathering, erosion, and sedimentation.



Complete the following sentences:

- The process of helps break up rocks, while the process of moves rocks and sand from one place to another.
- When water carries soil from one place to another, it is called
- Sand dunes are formed as a result of sand deposition, which is called
- Look at the image of the canyon and then answer:
- Describe how the three processes (weathering, erosion, and sedimentation) helped to shape this landscape?

.....

.....

.....

.....

.....

.....



- What are factors that speed up or slow down these processes?

.....

What is Weathering?

Have you ever ask where small rocks or sand come from? Have you ever seen a large rock that is broken or cracked?

This is caused by weathering.

- Look at the image, then think with your partner and answer:
- Explain how wind or water can affect large rocks. Give an example from nature.

.....

.....

.....

.....



- How do plants or animals help weathering occur?

What is the relationship between weather and weathering? How can weather conditions cause rocks to break down?

By the help of the textbook and in light of what you have learned,
Write the following:

Weathering	
Erosion	
Deposition	

Homework (Performance):

Complete the following statements:

- 1- The process by which rocks or soil moving is known as
- 2- Sediment down is a process of
- 3- Canyon is formed after
- 4- Some changes to Earth's surface happen taketime and some take.....time .
- 5- Sandcastle wrecked during.....

Read the following statements and then correct the wrong one:

- 1- Water and wind are factors that shape the surface of Earth .
- 2- Wadi Nakhr in the country of Oman .
- 3- Canyon is formed by wind.
- 4- Erosion and weathering change the shape of Earth's surface .
- 5- The process by which rocks are broken into smaller pieces is known as weathering .

Weekly assessment :

Test (1):

Answer the following questions :

1- Complete the following sentence:

Coastal rocks are formed by a period of time.

2- Write the scientific term : The process by which sediment down.

3- Give reasons:

The waves cause beach erosion.

4- What happens when:

Rocks are broken into smaller pieces.

5- Determine the two factors that affect on the Earth's surface .

Test (2):

Answer the following questions :

1- Complete the following sentence:

.....moving soil from one place to another.

2- Write the scientific term : Moving fragments of rocks or soil around.

3- Give reasons:

Weathering and erosion change the shape of Earth's surface.

4- What happens when:

Waves crash the beach.

5- Determine the difference between weathering and erosion.

Test (3):

Answer the following questions :

1- Complete the following sentence:

..... causing beach erosion.

2- Write the scientific term : Breaking apart rocks.

3- Give reasons:

Weather factors change Earth's surface.

4- What happens when:

Sediment settling.

5- Show how Earth's surface change by the time .

Concept One : Breaking Down and Moving Rocks

Week (10)

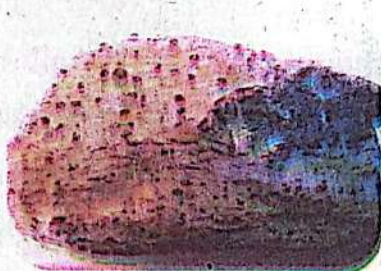
The rest of lesson (2) and lesson (3)

Date: / /

Classroom Performance:

Types of Weathering :

Look at the pictures and then identify the type of weathering (mechanical or chemical) in each rock:

	
..... Weathering	 Weathering
	
..... Weathering	 Weathering
	
..... Weathering	 Weathering

Look at the images and then complete the following sentences to explain the steps involved in the mechanical weathering of rocks:

 A	Water infiltrates and accumulates within the fine-grained rocks.
 B	Water freezes when the temperature drops, then expand and causes in cracks of rocks
 C	Ice melts and water fills which are newly formed.
 D	The cycle of and continues until rock breaks.

- Compare between mechanical weathering and chemical weathering in terms of their causes and effects on rocks:

Points of comparison	Mechanical weathering	Chemical weathering
Causes		
Effects on rocks		

Homework (Performance):

Complete the following statements:

- 1- Water freezes when the temperature drops, expands and causes
- 2- The cycle ofand until rock breaks.
- 3- Living organisms causeweathering .
- 4- The rust of rocks are caused by.....
- 5- and cause the breaking of rocks .

Read the following statements and then correct the wrong one:

- 1- There is one type of weathering .
- 2- Most caves are formed due to chemical weathering .
- 3- The cycle of melting and freezing continues until rock breaks.
- 4- Oxygen reacts with iron in rocks to create yellow – colored rust .
- 5- Chemical weathering breaks the rocks into smaller pieces

Weekly assessment :

Test (1)

Answer the following questions :

1- Complete the following sentence:

Chemical weathering the structure of rocks.

2- Write the scientific term :

Breaking down the rocks into pieces without any change in its structure .

3- Give reasons: Some rocks appear red .

4- What happens when: Acid rain falls on the rocks.

5- What are the differences between the chemical weathering and mechanical weathering?

Test (2)

Answer the following questions :

1- Complete the following sentence:

Mechanical weathering the structure of rocks .

2- Write the scientific term:

Breaking down the rocks into pieces with a change in its structure.

3- Give reasons: Oxygen causes a chemical weathering .

4- What happens when: Water infiltrates and accumulates within the fine- grained rocks.

5- What are the similarities between the chemical weathering and mechanical weathering?

Test (3)

Answer the following questions :

1- Complete the following sentence:

From the factors that affect the rocks..... and.....

2- Write the scientific term :

A type of weathering that causes by melting and freezing of water inside the rocks .

3- Give reasons: Lichens cause chemical weathering .

4- What happens when: Oxygen reacts with iron found inside the rocks.

5- Mention one difference between chemical & mechanical weathering .

Concept One : Breaking Down and Moving Rocks

Week (11)

Lesson (4) and lesson (5)

Date: / /

Classroom Performance:

Erosion :

Erosion is a process that occurs when nature moves rocks and sand from one place to another, just as the wind moves leaves, it also moves sand.

Erosion



Look at the figure, think about it with your partner, and then answer:

- Imagine you are on a trip to the desert and you see sand dunes. How were these dunes formed?

.....

.....

- Guided by the image, concluded two factors of erosion.

.....

- What is the difference between weathering and erosion?

.....

.....

- What is the relationship between water speed & occurrence of erosion?

.....

.....

- How can humans reduce the harmful effects of erosion?

Deposition

After rocks break down due to weathering and are transported by erosion, the final stage is deposition, which is the process of depositing these sediments in new places.

Deposition



Look at the figure, think about it with your partner, and then answer:

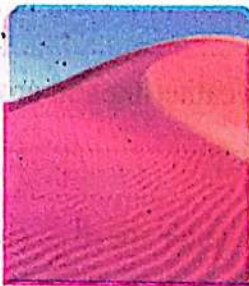
- What is the relationship between erosion and deposition?
- How does deposition affect the shape of riverbanks and river channels?
- Why do sediments settle when the wind calms down?
- Extract from the image the new landforms that have been created by deposition.
- Suggest a way to utilize deposition in agriculture or construction.

Have you noticed how the earth around us is changing? Rocks break, sand moves, and new places are formed!

These changes do not happen by chance, but are the result of three important natural processes: weathering, erosion, and deposition.



Weathering



Sand Dunes



Nile River Delta

Look at the previous images, think about it with your partner, and then answer:

- What is the process that helped to form the Nile River delta?

.....

- How can weathering affect the shape of mountains?

.....

Look at the image of sand dunes. What process led to their formation?

.....

▶ Homework (Performance):

Complete the following statements:

- 1- Dunes are formed due to
- 2- There are a relation between and deposition.
- 3- From transferring factors and
- 4- Sediments create river.....
- 5- Rocks and soil are moved around by the effect of

Read the following statements and then correct the wrong one:

- 1- Gravity pulls rocks down mountainsides .
- 2- Stronger winds will blow less sand and move it farther .
- 3- When the sand is left in a new place, it has been deposited.
- 4- Erosion and weathering are the same processes.
- 5- Weathering and deposition may take place together .

▶ Weekly assessment :

Answer the following questions : **Test (1)**

1- Complete the following sentence:

The rocks may erode after process.

2- Write the scientific term : The process that occurs when sand or rocks are moved from one place to another .

3- Give reasons: There are a relation between erosion and weathering.

4- What happens when: Breaking rocks into small pieces.

5- Mention the difference between erosion and deposition and rearrange the two processes .

Test (2)

Answer the following questions :

1- Complete the following sentence:

..... pull sand away from beaches.

2- Write the scientific term : The pieces of weathered rock that moved from its place.

3- Give reasons: The deposition is a very important process.

4- What happens when: The waves crash the beach.

5- Mention the difference between weathering and deposition and which of them occur first ?

Test (3)

Answer the following questions :

1- Complete the following sentence:

The sand grains accumulate on the top of each other forming

2- Write the scientific term :

The process that happen after erosion and causes the formation of delta .

3- Give reasons: Weathering and erosion change landforms.

4- What happens when: Sediments settling.

5- Mention one difference between the formation of dunes and formation of delta .

Monthly exercise (2)

Complete the following sentences:

1. Rocks break down into small pieces in its place and are transported by the process to another place.
2. is a natural process that takes years and its effects on rocks to become happen. .
3. Due to weathering, erosion, and deposition processes, the of northern Egypt were formed.
4. Wind carries sand and deposits it on the ground in a new place through the process.
5. The melting and freezing cycle of water in the rocks cracks helps in theweathering of rocks.
- 6- causes weathring of rocks, like lichens, over time, producing acid with- in the rocks.
- 7- grows in rock cracks and works to break them down into small pieces.

- 8- Caves formed inside of the mountain due to..... weathering which forms rust due to wind and rain.
- 9- Mechanical weathering continues to break down rocks until they become
- 10- From the large canyons , the Nakhr Valley in..... and the Colored Canyon in
- 11- The generated energy by the force of water through huge generators is called
- 12- Water, wind, and solar energy are sources of..... energy.
- 13- Coal, oil, and natural gas are sources ofenergy.
- 14 - If you are asked to heat food in a safe, clean, and inexpensive way, you might use a
- 15 - Watermills and windmills are considered sources of energy.

Complete the following sentences with the suitable words between brackets:

(Dam - Weathering - Turbines - Canyons)

1. Wavy cliffsides and high peaks indicate the formation of a
2. Water flow can be controlled by to increase its potential energy.
3. produce electricity through generators in the dam.
4. One of the processes that changes the Earth's landforms is

Give reasons for:

- 1- When rocks are weathered, they break down into smaller pieces and are transported to a far place.
- 2- Deposition is the final stage for breaker rocks.
- 3- The accumulation of sediments leads to the formation of new landforms.
- 4- There is a relationship between weathering, erosion, and deposition.
- 5- The Western Desert in Egypt was formed over the years from sand dunes.
- 6- Sandcastles disappear near the beach.

Write what the following statements refer:

- 1- The energy emitted from the sun to provide heat in a solar cooker.
- 2- A large Canyon formed by environmental factors over time, located in Oman.
- 3- The deposition of sediments resulting from the breaking down of rocks into small pieces and their accumulation near the beach.
- 4- The process of changing the Earth's landforms due to weathering factors.
- 5- The interaction of air and water with rocks leads to break down rocks and showed in a red color.

Mention the importance for each one of the following:

- 1- Watermills and windmills.
- 2- Wind turbines.

Second Term

- 3- Water downhill and waterfalls.
- 4- Dams over rivers.
- 5- Electric generator.
- 6- Solar cooker.
- 7- Water, wind and heat in weathering, erosion and deposition processes.
- 8- Oxygen in the process of chemical weathering.

Choose the correct answer between brackets:

- 1- The presence of sand dunes or sediments in a region, tell us that they are.....
(Eroded in their place - Weathered in their place -
Weathering and erosion - Erosion and deposition)
2. Which of the following landforms is steep and was formed due to the very flow of water ?
(Plains - Mountains - Canyons - Valleys)
- 3- Red rust in sedimentary rocks indicates happening of the..... process.
(erosion of rocks - mechanical weathering - chemical weathering - deposition of rocks)
- 4- When rocks break down due to temperature changes, this indicates a process of
(Mechanical weathering - Chemical weathering - erosion by breakdown - Water precipitation)
- 5- The mixing of acidic water with rocks causes
(mechanical weathering - chemical weathering - freezing water - rock movement)
- 6- are from examples for sources of energy that are consumed by humans faster than they are created.
(Solar energy - Wind energy - Hydroelectric energy - Fossil fuels)
7. are from examples of renewable energy sources.
(Water - Coal - Natural gas - Fossil fuels)
- 8- The energy produced by turbines is called
(potential energy - kinetic energy - chemical energy - hydroelectric energy)
- 9 - To convert light energy into electrical energy, we use
(windmills - solar panels - wind turbines - water turbines)
- 10 - One of the benefits of the sun is the production of
(light energy - radioactive energy - kinetic energy - thermal energy)

Put (✓) or (×):

- 1- The increase of the water flow, the increase of the erosion. ()
- 2- The walls of canyons are not very high and have small slopes. ()
- 3- A computer depends on kinetic energy. ()
- 4- A ceiling fan depends on electrical energy. ()
- 5- The function of TV devices depends on hydroelectric energy. ()
- 6- To power the cell phone depends on potential and kinetic energy. ()

Concept two : Changing Landscape

Lesson (1) and (2)

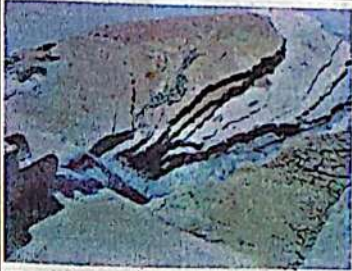
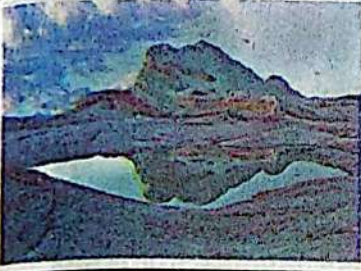
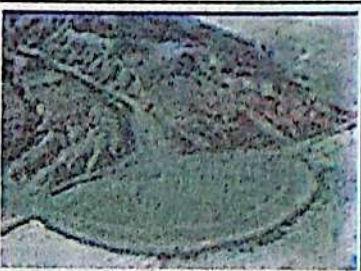
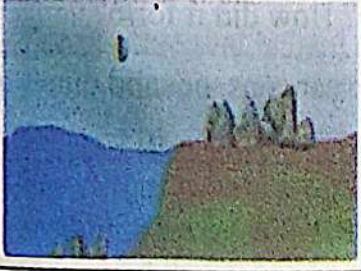
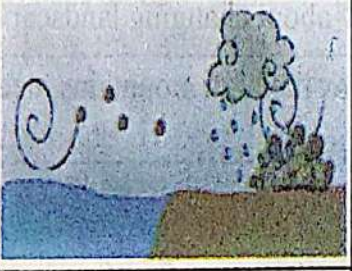
Week (12)

Date: / /

Classroom Performance:

(Weathering → Erosion → Deposition)

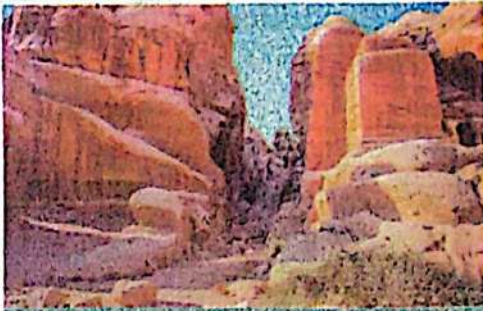
In front of you a group of images. Note them well, then put each image to the process it belongs to:

		
.....		
		
.....		
		
.....		
		
.....		

Second Term

Canyons

When water moving over the dirt or sand, it pushes some of it and leaves a traces behind. Over time, this traces may develop at long time into a canyon, which is a long, narrow lowland caused by the movement of water.



Wadi Nakhr, Oman



Wadi Rum, Jordan



Small Canyon, Thailand



Colored Canyon, Sinai

Notice previous images and think with your partner, then answer:

- Are all Canyons the same? What are the similarities and differences?

.....

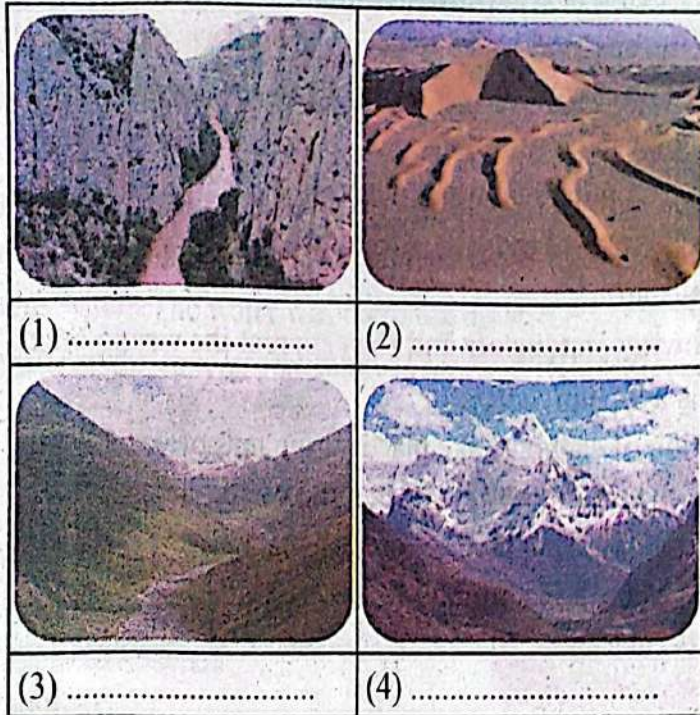
- How does running water help in the formation of Canyons?

.....

What do you already know about changing landscape? How did it form?

Have you ever thought how the high mountains, deep canyons, or sand dunes of the desert came to be?

Look at the images and then answer: Write under each image the name of the type of landforms.



Extract from the images the Landform that was happened by deposition.

.....

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

